

262c Integrating Sustainability Principles into Gsk'S Process Development: Fast Life Cycle Assessment of Synthetic Chemistry (Flasc™) Tool

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There is a clear need for simple methodology to deliver metrics that may be used to determine and benchmark the 'greenness' or relative sustainability of synthetic processes for Active Pharmaceutical Ingredients (APIs). Such methodology and metrics should facilitate more informed and sustainable business choices. This capability is particularly important at an early stage in R&D development activities when route and processes are being selected and detailed environmental data are not available.

FLASC™ (Fast LifeCycle Assessment of Synthetic Chemistry) is a web-based tool and methodology designed to meet these requirements. It was developed from a detailed assessment of the cradle-to-gate LifeCycle environmental impacts associated with the manufacture of materials used in a typical pharmaceutical process. This presentation will describe the methodology used to develop FLASC™ and provides examples of the type of information and guidance FLASC™ provides.

FLASC™ represents an important part of the overall efforts of GlaxoSmithKline (GSK) to incorporate and maintain sustainable business practices for manufacture of APIs used in its pharmaceutical products. This tool is not intended to assess waste from GSK operations nor solvent recovery and currently does not incorporate specific chemical-related health and safety data. However, these are already routinely assessed within GSK R&D at appropriate milestones and the use of FLASC™ is complementary to these evaluations.